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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,117	09/16/2003	Rongguo Zhao	071185-0004	1841
20572	7590	10/31/2005	EXAMINER	
GODFREY & KAHN S.C. 780 NORTH WATER STREET MILWAUKEE, WI 53202			DEL SOLE, JOSEPH S	
			ART UNIT	PAPER NUMBER
			1722	
DATE MAILED: 10/31/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/663,117	<b>Applicant(s)</b> ZHAO ET AL.	
	<b>Examiner</b> Joseph S. Del Sole	<b>Art Unit</b> 1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-11 and 13-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 1-8 and 12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** indication of traverse in the reply filed on 9/21/05.

### ***Information Disclosure Statement***

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. This includes both the US Patents referenced as well as the non-patent literature on page 4.

### ***Specification***

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The

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disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The abstract of the disclosure is objected to because **a)** it is currently over 150 words and is used to describe both the apparatus and the process; the abstract should be rewritten to be under this word limit and should only address the elected apparatus invention. Correction is required. See MPEP § 608.01(b).

5. The disclosure is objected to because of the following informalities: **a)** the specification is too many words and refers to method, apparatus and product, however it should be rewritten to be shorter and refer only to the apparatus; and **b)** at page 5, paragraph [0022] line 11 "43" is used to represent "cartridge filters" and at page 6, the last line of paragraph [0022] "43" is used to represent "helical stirrers".

Appropriate correction is required.

### ***Drawings***

6. The drawings are objected to because **a)** it is unclear whether #43 in Figure 3 represents cartridge filters or helical stirrers, the confusion is due to the reference number referring to both features in the specification as stated above. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes

made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

7. Claim 9 is objected to because of the following informalities: **a)** at line 4 of claim 9 "from each of which are are" should be changed to --from each of which are-- (eliminate the double word); **b)** at line 6 of claim 9 "5 degree" and "75 degree" should be changed to --5 degrees-- and --75 degrees-- respectively. Appropriate correction is required.

8. Claim 16 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 16 fails to further limit the apparatus of parent claim 9 because the only limitations of claim 16 are limitations of the material being shaped. A material processed by an apparatus does not further limit an apparatus.

### ***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 9 and 13-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 9 includes new limitation "movement of the jets" at line 7. There is no support in the original specification for moving jets.

Claims 13 - 15 include limitations of the jet heads which lack support in the specification. The Examiner notes that the jet heads as claimed are hydro jets, either #15 or #19 and are different than nozzles #10. Some of the limitations appear to be supported only if referring to #10, however some of the limitations lack support regardless of whether the limitation relates to #10, #15 or #19.

11. Claims 9-11 and 13-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification does not adequately describe the 0.5 inch to 30 inch from collecting surface distance as claimed in claim 9.

The specification does not adequately describe the 5 degree to 75 degree angle relative to the collecting surface as claimed in claim 9.

The specification does not adequately describe the jet head nozzle-to-nozzle space of 0.050 inches to 1.000 inch as claimed in claim 13.

The specification does not adequately describe the 0.005" to 0.050" jet head inside diameter of the jet head or the 0.5000" to 3.000" length of the jet head as claimed in claim 14.

The specification does not adequately describe the -0.005" to 0.800" protrusion from the top plate of the jet heads, nor does it adequately describe concentric gas holes therewith as claimed in claim 15.

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 9-11 and 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 is vague and indefinite because the limitation "(relative to the direction of movement of the jets)" is unclear. One would not know if the parentheses are utilized to indicate that the limitation is claimed only in the alternative or if it is positively claimed. The Examiner suggests deleting the parentheses and rewriting the claim such that it is grammatically clear.

Claim 9 is vague and indefinite because it is unclear whether the jets of line 4 relate to the nozzles #10 of the specification or the jets #15 of the specification. There

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does not appear to be support in the specification for either the measurement of distance from the collecting surface or of the angle relative to the collecting surface as claimed regardless of whether these limitations relate to #10 or #15. Clarity is required.

Claims 9 and 13-15 are vague and indefinite because limitations relating to jet heads or nozzles are not clearly set forth in a manner such that one would identify whether the features are molten material transporting nozzles or air/liquid spraying jets.

Claim 11 is vague and indefinite because the limitation "at a certain surface speed" is unclear. One would not know the speed at which the drum is capable of rotating. The Examiner notes that the relative speeds of the drum and the belt is a process limitation.

14. Claims 9-11 and 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: **a)** the structural relationships between features a and b of claim 9 and **b)** features a and d of claim 9.

### ***Claim Rejections - 35 USC § 102***

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. Claims 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Law et al (6,358,461).



Law et al teach a collecting system having a perforated drum with a vacuum section (Fig 1, #28, as broadly claimed the centrifugal motion of the drum causes suction); two sets of hydro jets at a distance and angle to the collecting surface (Fig 1, #17); a regenerating and washing bath with conveyance (Fig 1, #27, the combination of the drum in the bath creates a belt conveyance); and a heating section (Fig 1, #23).

17. Claims 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Boulanger et al (5,405,650).

Boulanger et al teach a collecting system having a perforated drum with a vacuum section (Figs 1 and 2, #12); two sets of hydro jets at a distance and angle to the collecting surface (Figs 1, 2 and 4, #s 22 and 28); a regenerating and washing bath with conveyance (Fig 2, the tubs holding #s 34 and 41 and conveyance #s 32 and 36); and a heating section (Figs 1 and 2, #42).

### ***References of Interest***

18. Greenway et al (4,960,630), Radwanski et al (4,931,355), Koger, II et al (4,552,709), Reidel (2,976,580), Barnhart (3,709,647), Choi (6,230,776) and Rowland (3,689,346) are cited of interest to show the state of the art.

### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joseph S. Del Sole whose telephone number is (571) 272-1130. The examiner can normally be reached on Monday through Friday from 8:30 A.M. to 5:00 P.M.

If attempts to reach the Examiner by telephone are unsuccessful, Mr. Duane Smith can be reached at (571) 272-1166. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for both non-after finals and for after finals.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from the either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 886-217-9197 (toll-free).

A handwritten signature in cursive script that reads "Joseph S. Del Sole".

Joseph S. Del Sole  
October 27, 2005